Methodology

The Actuarial Standards Board has issued Actuarial Standard of Practice (ASOP) No. 35, *Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations,* which provides guidance to actuaries in selecting demographic assumptions for measuring obligations under defined benefit plans. In our opinion, the demographic assumptions recommended in this report have been developed in accordance with ASOP 35.

General methodology for all assumptions

- Study comprises the years January 1, 2006 through January 1, 2012.
- Data used in this study was provided by the State Retirement Board and reflects the data used in the State actuarial valuations in each of these years.
- Reconciliation of members completed for each year.
- For each period in the 6-year experience study period (1/06 to 1/07, 1/07 to 1/08, 1/08 to 1/09, 1/09 to 1/10, 1/10 to 1/11, and 1/11 to 1/12), we determined the member experience relating to:
  – Retirement
  – Disability
  – Withdrawal (Turnover)
  – Salary increases
  – Post-retirement mortality, including disabled retirees
- Actual experience determined at each age (and/or years of service) for each assumption. For example, for retirement, we determined the actual number of members retiring at each age.
- Expected experience determined for each assumption. For example, for retirement, we determined the expected number of members retiring at each age based on the plan assumptions.
- An actual/expected (A/E) ratio was computed at each age (and/or years of service) for each assumption.
- Reviewed experience results and used various smoothing techniques to select final assumptions. Often used 5-year averages to smooth results.
- Analysis reflects a review by age, service and job group:
  – Group 1 – general employees
  – Group 2 – certain employees with hazardous positions
  – Group 3 – state police
  – Group 4 – generally public safety and correction officers

Methodology (continued)

In addition to the general methodology that was used for each assumption outlined on the previous page, the following specific analysis was conducted:

Retirement

- Assumed a member retired if the member were eligible to retire at the beginning of a period and is not in the active file at the end of the period.
- Analyzed results for Groups 1 and 2 by gender.
- Analyzed results separately for members below age 50 and over age 70.

Disability

- Results modified to reflect that some members retire from an inactive status as opposed to an active status.
- Compared results to historical disability counts from PERAC disability unit.
- Analyzed results in 5-year age brackets in selecting assumptions.

Withdrawal

- Assumed a member withdrew if the member were not eligible to retire at the beginning of the period and is not in the active file at the end of the period.
- Analyzed results by service and age/service combined in addition to age.
- Analyzed results in 5-year age brackets in selecting assumptions.

Methodology (continued)

Salary Increases

- Determined ratios of salaries at the end of the year to salaries at the beginning of the year for continuing members.
- Analyzed results by age, service, and age/service combined.
- Analyzed results in 5-year age brackets in selecting assumptions.

Post-Retirement Mortality

- Assumed a member died if he/she were coded as receiving an allowance at the beginning of the year and were coded as not receiving an allowance or were missing from the file at the end of the year.
- Analyzed results by gender.
- Analyzed results by job group.
- Adjusted results for each job group to reflect retiree deaths with continuing payments to beneficiaries.
- Compared actual experience for each job group to the RP-2000 mortality tables.
- Performed testing for disabled retired members separately by gender.
- Analyzed results in 5-year age brackets in selecting assumptions.